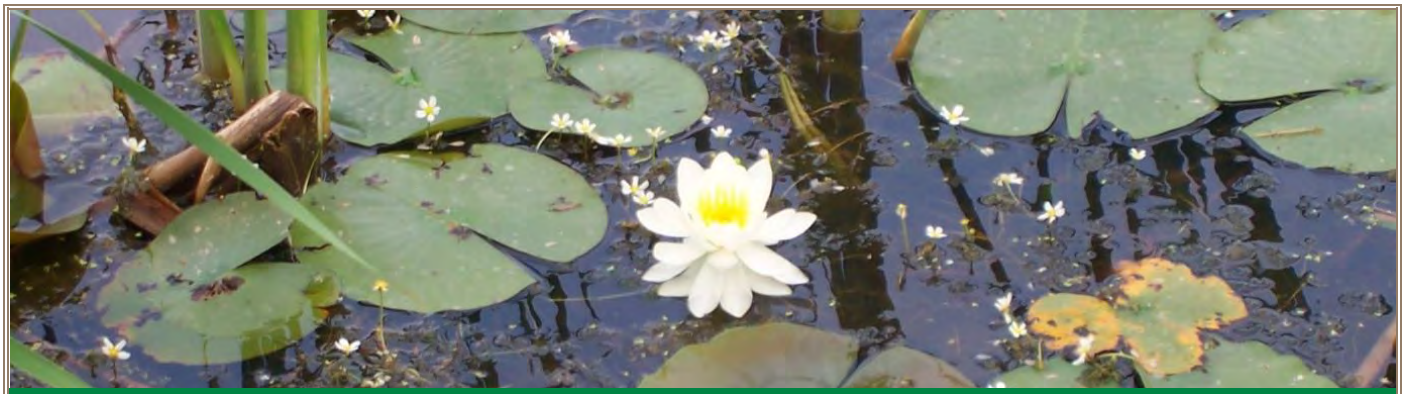


Water Resources Delineation Report

64 Acres, North Blue Lake Road
Smith Township, Whitley County, Indiana

December 2014

Prepared for:
All American RV Resorts I, LLC.
2042 Broadway
Fort Wayne, Indiana 46802

Prepared by:
Davey Resource Group
A Division of The Davey Tree Expert Company
1000 Airport North Office Park, Suite A
Fort Wayne, Indiana 46825

DAVEY RESOURCE GROUP
A Division of The Davey Tree Expert Company

Table of Contents

Tables

Appendices

Executive Summary

The 64-acre site is located at the Blue Lake Campground west of Blue Lake Road and north of County Road 550 North in Smith Township, Whitley County, Indiana. A water resources delineation was performed by Jacob Bannister and Molly Baughman on November 11, 2014.

The study area contains disturbed/developed area, lawn, upland woods, successional woods, upland old fields, emergent wetlands, and forested wetlands. A map showing the location and size of the water resources identified on the property is shown in Appendix A. A map showing general plant communities found on the site is in Appendix B. Three wetlands totaling 12.224 acres are found within the study area (Table 1). There is a perennial stream with a length of 982 feet on the site (Table 2).

Table 1. Jurisdictional Wetlands Delineated on the Site

Wetlands	Type	Connectivity to Waters of the US[1]	Area (Acres)
A	emergent	isolated	0.120
B	forested/emergent	non-isolated	3.486
C	emergent/forested	non-isolated	8.618
Total			12.224

[1] The final determination of a wetlands' connectivity to Waters of the U.S. is made by the U.S. Army Corps of Engineers.

Table 2. Jurisdictional Drainageways Delineated on the Site

Stream	Type	Length (Linear Feet)
Maloney Ditch	perennial	982
Total		982

Introduction

Study Area Description and Location

The 64-acre site is located at Blue Lake Campground in Smith Township, Whitley County, Indiana (Appendix C). The property is bounded on the east by North Blue Lake Road, on the north by County Road 575 North, and on the South by Blue Lake (Appendix D).

The property contains disturbed/developed area, lawn, upland woods, successional woods, upland old fields, emergent wetlands, and forested wetlands. Buildings are present on site including the Camp Office, outbuildings, and two small cabins, as well as numerous RVs parked in the camping area. An aerial photograph of the study area is included in Appendix E.

A small perennial stream, Maloney Ditch, flows across the site from north to south. This stream flows south off the site into Blue Lake. Blue Lake outlets to the Blue River, which then drains to the Eel River near Columbia City, Indiana. The Eel River flows to the Wabash River in Logansport, Indiana. The Wabash River flows to the Ohio River at the southwest corner of Indiana. The site is within the eight-digit Hydrologic Unit Code (HUC) Eel River watershed (05120104).

Secondary Source Information

The property is shown on the Churubusco Quadrangle of the United States Geological Survey (USGS) map (Appendix F). Elevations range from approximately 850 to 890 feet across the site.

The National Wetlands Inventory (NWI) map (Churubusco Quadrangle) is in Appendix G. There are multiple NWI wetlands mapped on the site. The wetlands on site are mapped as a palustrine, forested system characterized by broad-leaved, deciduous woody vegetation that is temporarily flooded (PFO1A); palustrine, forested systems characterized by broad-leaved deciduous woody vegetation that are seasonally flooded (PFO1C); a palustrine, emergent system dominated by persistent species that is saturated for extended periods of time (PEM1B); as well as a palustrine, scrub-shrub system characterized by broad-leaved deciduous woody vegetation that is seasonally flooded (PSS1C)

A map from the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey showing the soil types located on and adjacent to the site is found in Appendix H. Table 3 provides a list of soil types mapped for the site.

Table 3. Soil Types Mapped for the Site

Map Unit	Soil Description
Co	Coesse silty clay loam[1]
HbA	Haskins loam, 0 to 3 percent slopes
Hs	Houghton muck, undrained[1]
Ht	Houghton muck, drained[1]
Md	Martisco muck, drained[1]
MvC2	Morley loam, 6 to 12 percent slopes, eroded
MvD2	Morley loam, 12 to 20 percent slopes, eroded
MxC3	Morley clay loam, 5 to 12 percent slopes, severely eroded
MxD3	Morley clay loam, 12 to 20 percent slopes, severely eroded
RcB	Rawson sandy loam, 2 to 6 percent slopes
Re	Rensselaer loam[1]

[1]Hydric soil

Methodology

The *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)* to the *Corps of Engineers Wetland Delineation Manual* (U.S. Army Corps of Engineers 2010; Environmental Laboratory 1987) was used in delineating wetlands within the study area. Water resources were delineated and surveyed on November 11, 2014. The water resources delineation fieldwork, boundary mapping, and data analysis were performed by Jacob Bannister and Molly Baughman. Ken Christensen prepared the vegetation and water resources maps using AutoCAD® Map 3D 2012. Kim Klosterman prepared the maps included in Appendices C–H using ArcGIS™ v.9.3. Alicia Douglass provided technical oversight and quality control.

Streams are identified as linear, flowing water features with a defined bed and bank. Streams are subsequently classified as ephemeral, intermittent, or perennial based upon flow regime. Ephemeral streams have flowing water only during, and for a short duration after, precipitation events. Intermittent streams have flowing water during certain times of the year when groundwater and rainfall provide water for stream flow. During dry periods intermittent streams may not have flowing water. Perennial streams have flowing water year-round, receiving water from groundwater and rainfall runoff. Non-jurisdictional swales are channels that convey water for short periods of time, but lack an obvious ordinary high watermark.

Wetlands are identified based on three criteria: vegetation, soils, and hydrology. An area must meet all three criteria to be considered a jurisdictional wetland. Nine sampling points were established in the field to determine wetlands boundaries. Data sheets reporting the results of soils, vegetation, and hydrology analyses were completed for each sample station and are located in Appendix K.

Soil samples were obtained to determine the extent of hydric soils on the site. A standard Munsell soil color chart was used to determine the hue, value, and chroma of each soil sample. Soil samples were taken to a depth to adequately make a hydric soil determination. Criteria established by the National Technical Committee for Hydric Soils (1991) were used to determine hydric soils.

Wetland hydrology was characterized during this water resources delineation. Primary hydrological indicators, such as inundation, soil saturation, watermarks, drift lines, algal mat, iron deposits, sparsely vegetated concave surface, sediment deposits, hydrogen sulfide odor, blackened leaves, and oxidized rhizospheres, were noted as applicable. Secondary hydrological indicators, such as stunted or stressed plants, geomorphic position, FAC-neutral test, dry season water table, and crayfish burrows, were also noted as applicable.

Quantitative vegetation data were collected at each sampling point. Dominance was estimated by percent areal cover. Four strata were considered for each sample point—trees, saplings/shrubs, herbs, and woody vines. Trees were defined as any woody plant having a diameter at breast height (DBH) greater than 3.0 inches. Saplings and shrubs were those woody plants with a DBH of less than 3.0 inches and greater than 3.2 feet in height. For each stratum, plant species within a plot were identified and percent areal cover was estimated for each species. Thirty-foot-radius plots were used for trees and vines; 15-foot-radius plots were used for saplings and shrubs; and 5-foot-radius plots were used for herbs.

Any species within a stratum comprising 20% or more of the total plot areal cover was considered to be dominant. Dominant species within all strata were then added to determine the percentage of wetlands vegetation for each sample point. The wetlands vegetation criterion was met if greater than 50% of the dominant vegetation was indicative of wetlands conditions.

Species identifications are based on Mohlenbrock (1986), Newcomb (1977), Peterson and McKenny (1968), Petrides (1972), and Yatskievych (2000). Lichvar et al 2014 was used to assign indicator statuses to each identified species. Plants with an indicator status of obligate (OBL), facultative wetland (FACW), or facultative (FAC) were considered to be indicative of wetlands conditions. Plants with an indicator status of facultative upland (FACU) or upland (UPL) were considered to be indicative of upland conditions. Plants that could only be identified to genus were sometimes assigned an indicator status based on the professional judgment of Davey Resource Group. These plants were classified as wetlands indicator species (WIS) or upland indicator species (UIS). See Appendix I for a more detailed explanation of wetlands vegetation indicator statuses.

Survey flags were placed at necessary points around each wetland to accurately depict the wetland upland boundary. The location of each flag was surveyed using a GeoXH™ Trimble® GeoExplorer® 6000 series Dual-frequency Global Navigation Satellite System or GNSS (GPS, GLONASS, SBAS [WAAS]) receiver and antenna with Everest™ multipath rejection technology and Floodlight technology with 220 channels, running professional TerraSync™ software capable of decimeter (10–75cm) accuracy after differential correction.

Trimble® GPS Pathfinder® Office software was used for postprocessing the GNSS field collected data incorporating Trimble® DeltaPhase™ differential correction technology using GPS data collected from an appropriate base station. The corrected GPS latitude-longitude positions were exported into a compatible coordinate system as an AutoCAD® drawing interchange file (DXF). The vegetation and water resources maps included in this report were prepared using AutoCAD Map® 2012 software.

Streams and wetlands that are hydrologically connected to other traditional navigable waters of the United States are considered non-isolated and fall under the federal jurisdiction of the U.S. Army Corps of Engineers (USACE) and Indiana Department of Environmental Management (IDEM). All hydrologically isolated wetlands that lack connectivity to other surface waters are regulated by IDEM.

Results

Vegetation

A map showing the locations of vegetative communities present on the property is in Appendix B. The site contains upland woods, successional woods, upland old fields, emergent wetlands, and forested wetlands. Photographs showing water resources identified on the site are included in Appendix J.

Disturbed/Developed Area. An area of disturbed/developed area is found on site along the lake shore. This area contains many RV camping sites and is dominated by turfgrass species and also contains *Cirsium arvense* (Canada thistle, FACU), *Daucus carota* (Queen Anne's-lace, UPL), and *Taraxacum officinale* (common dandelion, FACU).

Lawn. An area of lawn is present on site near the entrance from North Blue Lake Road. This area contains turfgrass species as well as many of the weedy species found in the Disturbed/Developed and Upland Old Field areas.

Upland Woods. An area of upland woods containing mature trees is found on the site. Common species include *Acer saccharum* (sugar maple, FACU), *Carya ovata* (shagbark hickory, FACU), and *Quercus alba* (white oak, FACU).

Successional Woods. Areas of successional woods are found bordering Wetlands C and B on the site. These areas contain *Acer negundo* (ash-leaf maple, FAC), *Alliaria petiolata* (garlic mustard, FAC), *Celtis occidentalis* (common hackberry, FACU), *Geum canadense* (white avens, FAC), *Gleditsia triacanthos* (honey locust, FACU), *Juglans nigra* (black walnut, FACU), *Prunus serotina* (black cherry, FACU), *Rosa multiflora* (multiflora rose, FACU), amd *Rubus occidentalis* (black raspberry, UPL).

Upland Old Fields. Upland old fields are common in the northern portion of the site. Common species include *Aster* spp. (asters), *Bromus arvensis* (field brome, FACU), *Cirsium arvense* (Canada thistle, FACU), *Daucus carota* (Queen Anne's-lace, UPL), *Elaeagnus angustifolia* (Russian olive, FACU), *Festuca* spp. (fescues), *Gleditsia triacanthos* (honey locust, FACU), and *Solidago canadensis* (Canada goldenrod, FACU).

Emergent Wetlands. Wetland C and a small portion of Wetland B are emergent wetlands. These areas are dominated by *Phalaris arundinacea* (reed canary grass, FACW). Other species observed include *Cornus alba* (red osier, FACW), *Lysimachia nummularia* (creeping-jenny, FACW), *Penthorum sedoides* (ditch-stonecrop, OBL), *Typha* spp. (cat-tails, OBL), *Urtica dioica* (stinging nettle, FACW), and *Verbena hastata* (simpler's joy, FACW).

Forested Wetlands. Wetland A and the majority of Wetland B are forested wetlands. These wetlands contain *Acer saccharinum* (silver maple, FACW), *Cornus alba* (red osier, FACW), *Leersia virginica* (white grass, FACW), *Phalaris arundinacea* (reed canary grass, FACW), *Populus deltoides* (eastern cottonwood, FAC), *Toxicodendron radicans* (poison ivy, FAC), *Ulmus americana* (American elm, FACW), *Urtica dioica* (stinging nettle, FACW), and *Vitis riparia* (river-bank grape, FACW).

Soils

The soils generally match what is mapped on the soil survey. Areas of hydric soils correspond to the areas of wetlands on the site. The soils within Wetland B and a portion of Wetland C meet the depleted matrix (F3) hydric soil indicator. The soils within Wetland A and a portion of Wetland C meet the redox dark surface (F6) hydric soil indicator.

Hydrology

Observed wetland hydrology indicators include oxidized rhizospheres on living roots, saturated soils, surface water, water-stained leaves, saturation visible on aerial imagery, and the FAC-neutral test.

All of the wetlands on this site are fed by surface water. Wetland C is also fed by overflow from Maloney Ditch. Wetland B is fed by overflow from Blue Lake. Wetland A is located in a slight depression near the northern border of the site. Wetland B is abutting Blue Lake and Wetland C contains the majority of Maloney Ditch on site; thus, these two wetlands are non-isolated. Wetland A appears to be isolated with no apparent connection to Blue Lake or the other wetlands on site. Isolated Wetland A will fall under the jurisdiction of IDEM, and the two non-isolated wetlands will fall under the jurisdiction of USACE and IDEM.

Conclusions

A map showing the location and size of the water resources identified on the property is shown in Appendix A. Three wetlands totaling 12.224 acres are found within the study area. There are 982 linear feet of perennial stream on the site.

Davey Resource Group is confident that all jurisdictional wetlands and drainageways were identified on this site. No unusual or problem areas were found. All water resource studies conducted by Davey Resource Group are objective and based strictly on professional judgment. Davey Resource Group and its employees have no vested interest in this property or the proposed project. Appendix L contains references used in the creation of this report, and Appendix M provides profiles of all Davey Resource Group personnel who contributed to this report.

All water resources delineations must be verified by the USACE to be considered official. This water resources delineation is reflective of environmental conditions at the time the fieldwork was performed. Wetlands and streams are dynamic natural systems; therefore, boundaries may change slightly over time.

Appendix A
Water Resources Map

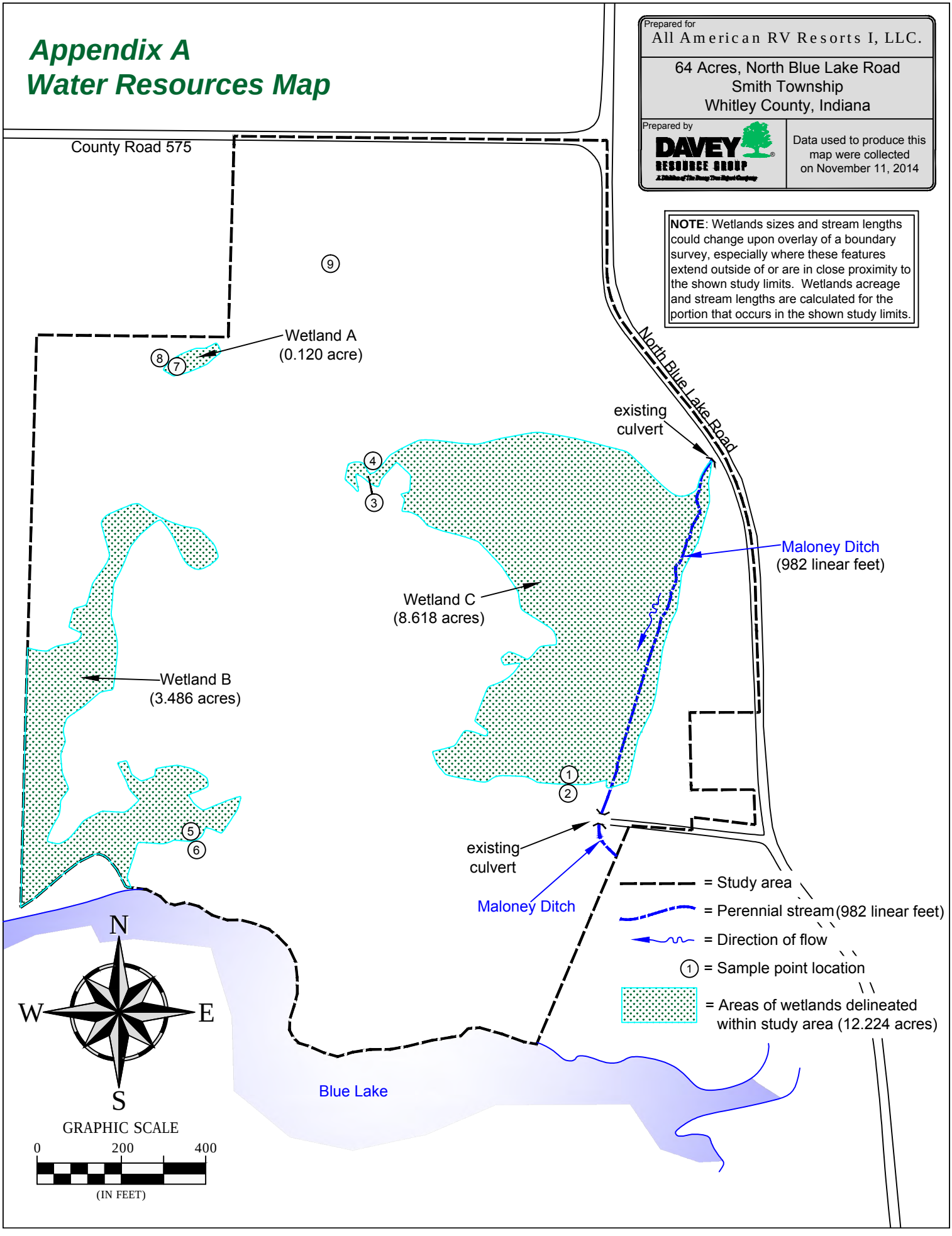
Prepared for
All American RV Resorts I, LLC.

64 Acres, North Blue Lake Road
Smith Township
Whitley County, Indiana

Prepared by
DAVEY RESOURCE GROUP

Data used to produce this map were collected on November 11, 2014

NOTE: Wetlands sizes and stream lengths could change upon overlay of a boundary survey, especially where these features extend outside of or are in close proximity to the shown study limits. Wetlands acreage and stream lengths are calculated for the portion that occurs in the shown study limits.



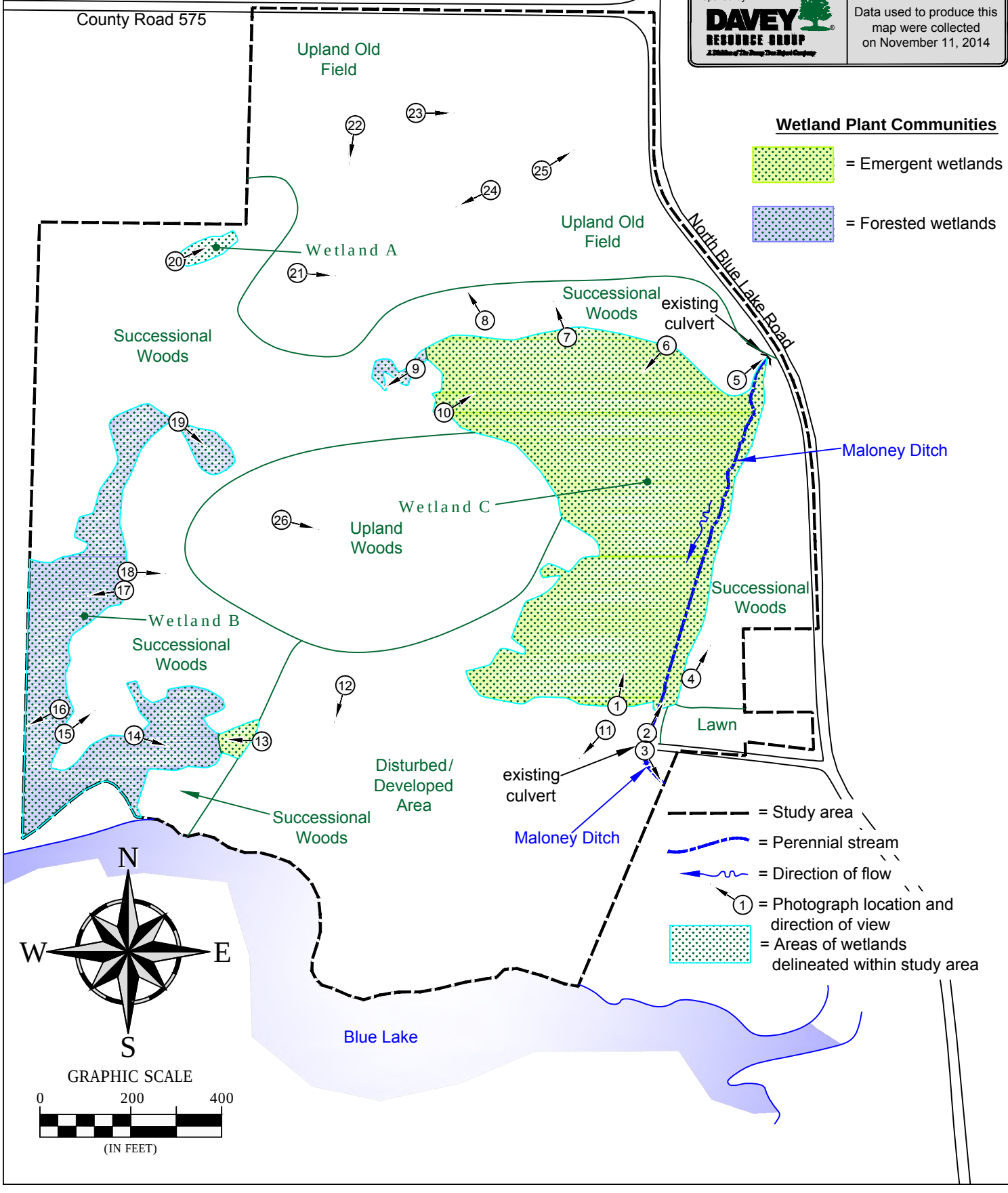
Appendix B
Plant Communities Map

Prepared for
All American RV Resorts I, LLC.

64 Acres, North Blue Lake Road
Smith Township
Whitley County, Indiana

Prepared by
DAVEY RESOURCE GROUP

Data used to produce this map were collected on November 11, 2014

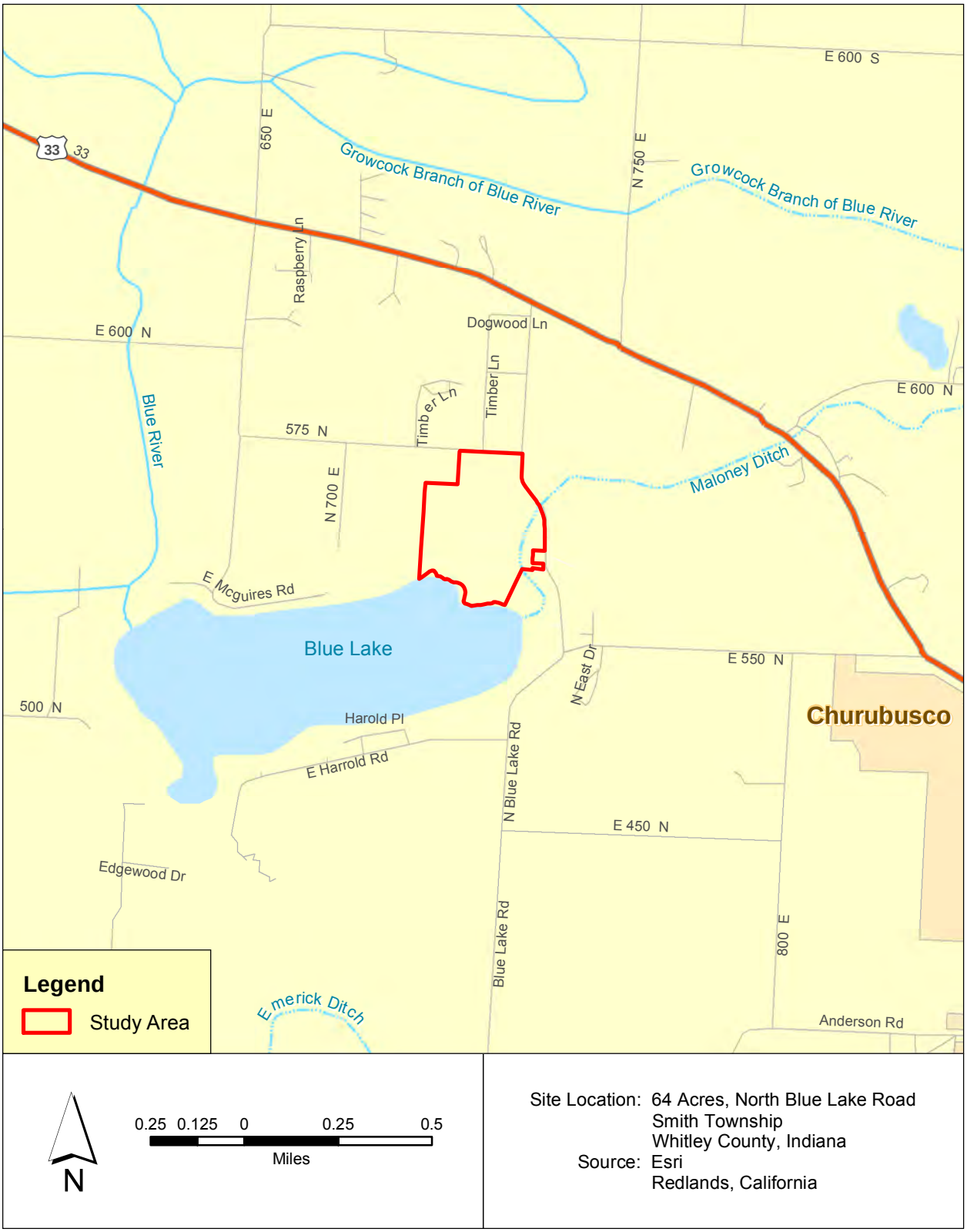


Appendix C
Location of Whitley County on Indiana County Map

Site Location: 64 Acres, North Blue Lake Road
Smith Township
Whitley County, Indiana

Source: Esri
Redlands, California

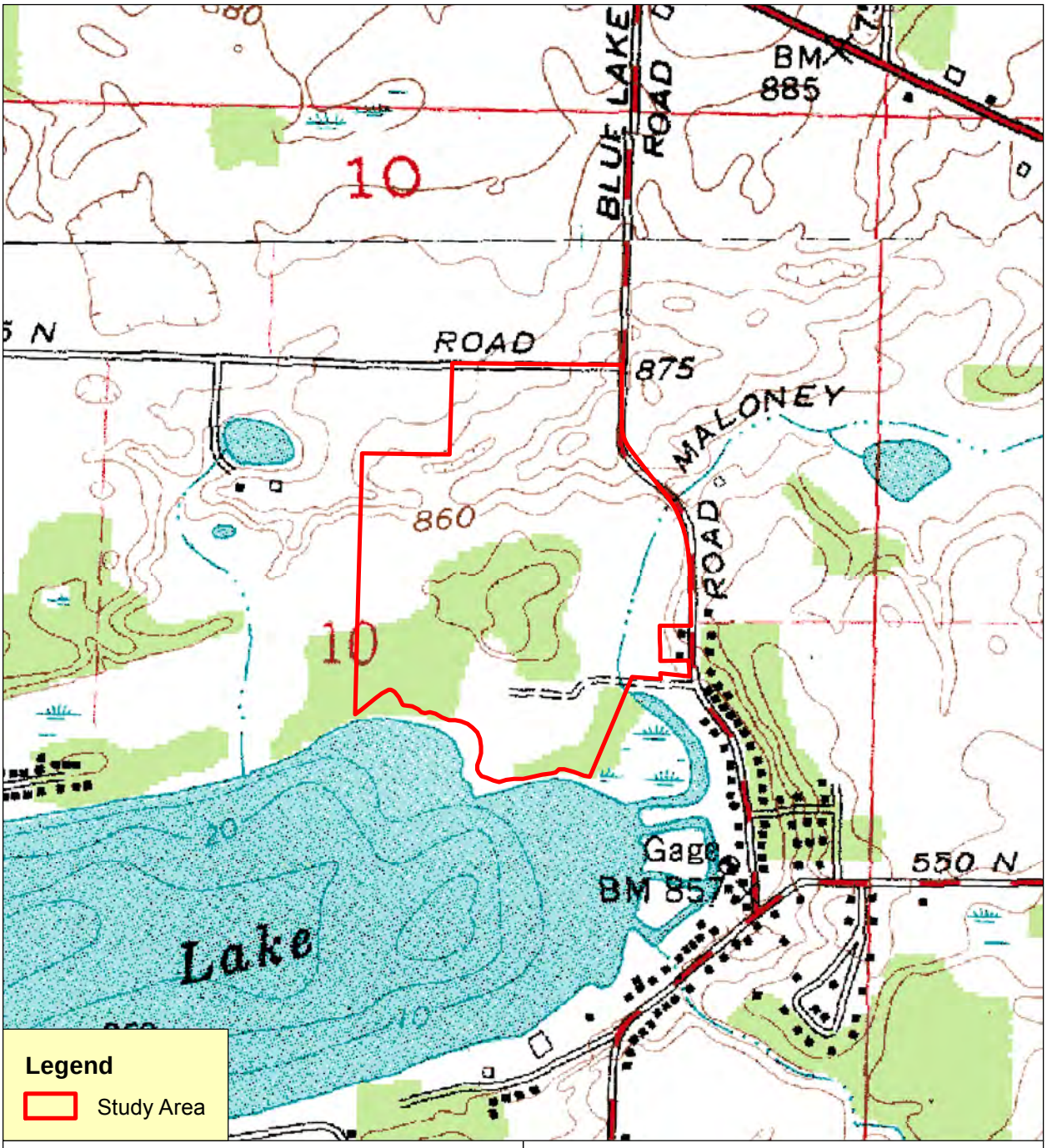
Appendix D
Location of Study Area on Highway Map



Appendix E
Location of Study Area on Aerial Photograph

Site Location: 64 Acres, North Blue Lake Road
Smith Township
Whitley County, Indiana
Source: Indiana Spatial Data Portal
Bloomington, Indiana
Aerial photograph dated 2005

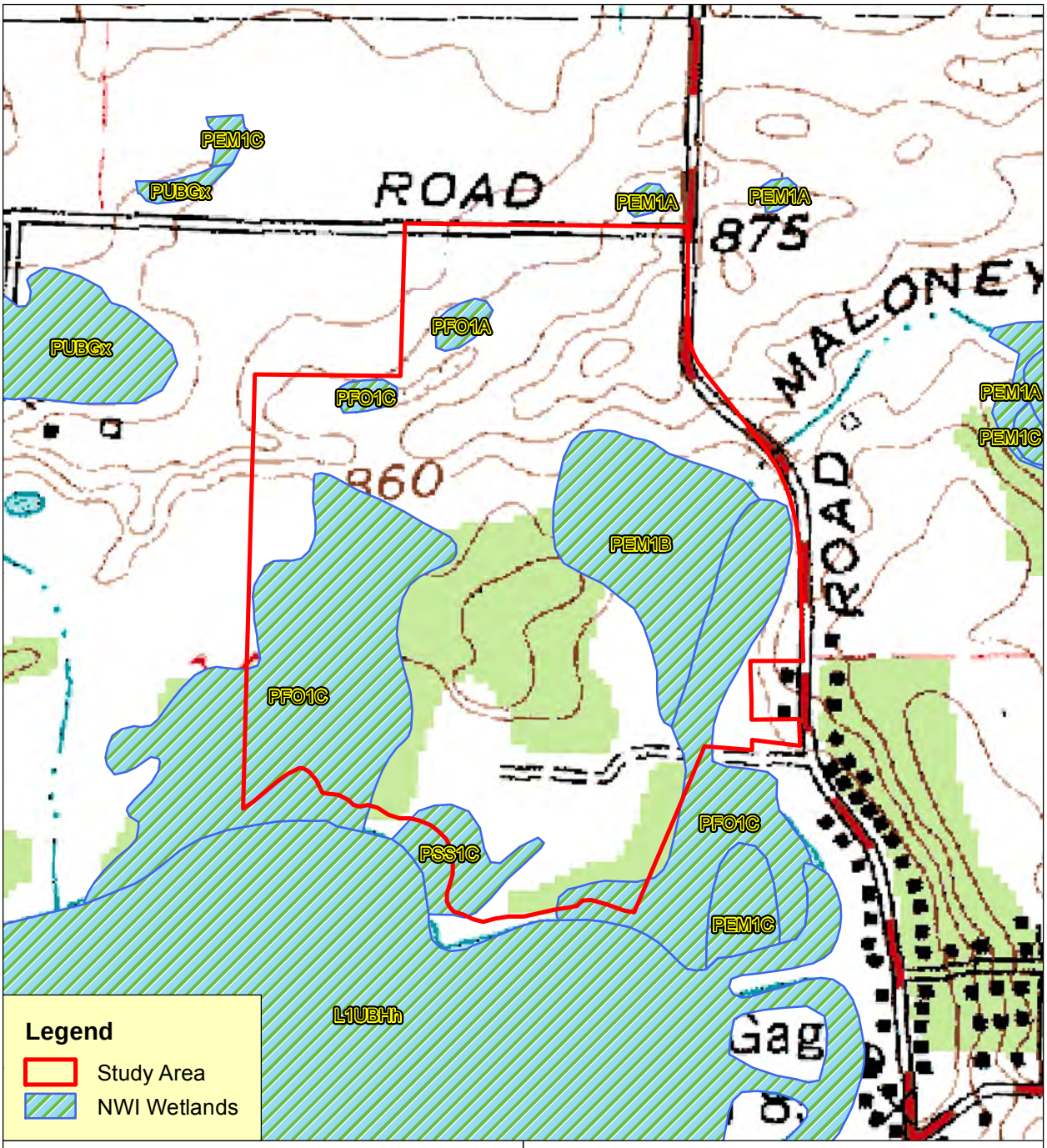
Appendix F
Location of Study Area on
USGS 7.5-Minute Topographic Map
(Churubusco Quadrangle)



Site Location: 64 Acres, North Blue Lake Road
Smith Township
Whitley County, Indiana

Source: U.S. Department of the Interior
U.S. Geological Survey
Reston, Virginia
1965

Appendix G
Location of Study Area on National Wetlands Inventory Map (Churubusco Quadrangle)



Site Location: 64 Acres, North Blue Lake Road
Smith Township
Whitley County, Indiana

Source: U.S. Department of the Interior
U.S. Fish and Wildlife Service
Madison, Wisconsin
October 1, 2014

Appendix H
Location of Study Area on Whitley County Soil Survey Map

Legend

Study Area

Whitley County Soils

N

400 200 0 400 800

Feet

Site Location: 64 Acres, North Blue Lake Road
Smith Township
Whitley County, Indiana

Source: U.S. Department of Agriculture
Natural Resources Conservation Service
Web Soil Survey
Indiana Spatial Data Portal
Aerial photograph dated 2005

Appendix I
Definition of Wetlands Vegetation Indicator Status (from Lichvar et al 2014)

Obligate Wetlands (OBL). Almost always is a hydrophyte, rarely in uplands.

Facultative Wetlands (FACW). Usually is a hydrophyte but occasionally found in uplands.

Facultative (FAC). Commonly occurs as either a hydrophyte or non-hydrophyte.

Facultative Upland (FACU). Occasionally is a hydrophyte but usually occurs in uplands.

Obligate Upland (UPL). Rarely is a hydrophyte, almost always in uplands.

Species for which little or no information was available to base an indicator status were assigned a no indicator (NI) status. An asterisk (*) after the indicator status indicates that the indicator status was based on limited ecological information.

The wetlands indicator categories should not be equated to degrees of wetness. Many obligate wetlands species occur in permanently or semipermanently flooded wetlands, but a number of obligates also occur, and some are restricted to wetlands that are only temporarily or seasonally flooded. The facultative upland species include a diverse collection of plants that range from weedy species adapted to exist in a number of environmentally stressful or disturbed sites (including wetlands), to species in which a portion of the gene pool (an ecotype) always occurs in wetlands. Both the weedy and ecotype representatives of the facultative upland category occur in seasonally and semipermanently flooded wetlands.

Davey Resource Group has added two additional indicators for situations when plants can only be identified to genus. A Wetlands Indicator Species (WIS) is a plant that is most likely obligate wetlands, facultative wetlands, or facultative. An Upland Indicator Species (UIS) is a plant that is most likely indicative of upland or facultative upland conditions. These additional indicators are used when species identification is not possible. A variety of factors are part of the UIS and WIS assignments. Indicator statuses of all locally occurring members of the genus in question are considered, as are the health and size of the population and the indicator status of nearby plants.

Appendix J
Photographs of Site

Photograph 1 (11-11-14) Wetland C is a large emergent wetland with a small forested portion.

Photograph 2 (11-11-14) Maloney Ditch flows north to south across the eastern portion of the site.

Photograph 3 (11-11-14) Maloney Ditch flows south off of the site.

Photograph 4 (11-11-14) Successional woods were observed along the eastern border of the site.

Photograph 5 (11-11-14) Maloney Ditch enters the site via a culvert under North Blue Lake Road.

Photograph 6 (11-11-14) Wetland C is seen here facing southwest.

Photograph 7 (11-11-14) Successional woods north of Wetland C slope up away from the wetland.

Photograph 8 (11-11-14) Upland old fields are located north of the successional woods north of Wetland C.

Photograph 9 (11-11-14) A small forested portion of Wetland C is seen here, dominated by *Populus deltoides* (eastern cottonwood, FAC).

Photograph 10 (11-11-14) Small pooled areas were observed along the western edge of Wetland C.

Photograph 11 (11-11-14) The campground office and various outbuildings are found north of the existing RV camping area.

Photograph 12 (11-11-14) Existing RV campsites extend across the southern edge of the campground adjacent to Blue Lake.

Photograph 13 (11-11-14) A small emergent wetland was observed along the eastern edge of Wetland B.

Photograph 14 (11-11-14) The majority of Wetland B is forested wetland.

Photograph 15 (11-11-14) Areas of successional woods border Wetland B to the east.

Photograph 16 (11-11-14) Wetland B extends west off of the site.

Photograph 17 (11-11-14) Areas of standing water were observed throughout Wetland B.

Photograph 18 (11-11-14) Successional woods are seen here sloping up from Wetland B.

Photograph 19 (11-11-14) The small northern portion of Wetland B is seen here facing southeast.

Photograph 20 (11-11-14) Wetland C is a small pool found near the northern border of the site.

Photograph 21 (11-11-14) Upland old fields on site are seen here facing east.

Photograph 22 (11-11-14) Sample point 9 was taken in a low-lying area containing a mix of *Gleditsia triacanthos* (honey locust, FACU) and *Populus deltoides* (eastern cottonwood, FAC). No indicators of hydric soils or wetland hydrology were observed.

Photograph 23 (11-11-14) Upland old fields located in the northern portion of the site are seen here facing east.

Photograph 24 (11-11-14) A portion of the upland old fields on site contains a small service drive.

Photograph 25 (11-11-14) The service drive extends east into the upland old fields on site.

Photograph 26 (11-11-14) Upland woods were observed in an area of higher elevation centrally located on site. This area is dominated by mature tree species including *Carya ovata* (shagbark hickory, FACU) and *Quercus alba* (white oak, FACU).

Appendix K
Vegetation, Hydrology, and Soils Data Sheets

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 64 Acres, Blue Lake Campground, Smith Township City/County: Whitley County Sampling Date: 11-Nov-14

Applicant/Owner: All American RV Resorts I, LLC. State: IN Sampling Point: 1

Investigator(s): Jacob Bannister and Molly Baughman Section, Township, Range: S 10 T 32N R 10E

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): concave

Slope: 0.0% 0.0 ° Lat.: Long.: Datum:

Soil Map Unit Name: Martisco muck, drained NWI classification: PEM1B

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** **Yes ◉ No ○**
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. Phalaris arundinacea	100	☑ 100.0%	FACW
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
	100	= Total Cover	
Woody Vine Stratu (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 2.000

Hydrophytic Vegetation Indicators:

- ☑ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? **Yes ◉ No ○**

Remarks: (Include photo numbers here or on a separate sheet.)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc [2]	Texture	Remarks
0-5	5Y	2.5/1	100						Silt Loam	contains organic material
5-12	10YR	7/1	90	10YR	5/6	10	C	PL	Clay Loam	contains marl

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining. M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 64 Acres, Blue Lake Campground, Smith Township City/County: Whitley County Sampling Date: 11-Nov-14

Applicant/Owner: All American RV Resorts I, LLC. State: IN Sampling Point: 2

Investigator(s): Jacob Bannister and Molly Baughman Section, Township, Range: S 10 T 32N R 10E

Landform (hillslope, terrace, etc.): Shoulder slope Local relief (concave, convex, none): convex

Slope: 0.0% 0.0 ° Lat.: Long.: Datum:

Soil Map Unit Name: Martisco muck, drained NWI classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5 ft.)				
1. Poa pratensis	30	☑	42.9%	FAC
2. Phalaris arundinacea	30	☑	42.9%	FACW
3. Taraxacum officinale	5	☐	7.1%	FACU
4. Plantago major	5	☐	7.1%	FAC
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	70	= Total Cover		
Woody Vine Stratu (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	35	x 3 =	105
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	70 (A)		185 (B)

Prevalence Index = B/A = 2.643

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: (Include photo numbers here or on a separate sheet.)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc [2]	Texture	Remarks
0-4	10YR	5/4	70						Clay	
0-4	10YR	3/2	30						Silty Clay	
4-12	10YR	5/4	80						Clay	
4-12	10YR	2/1	20						Silt Loam	
12-18	10YR	5/4	75	10YR	5/8	5	C	M	Clay	
12-18	10YR	2/1	30						Silt Loam	
18-20	10YR	2/1	100						Silt Loam	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining. M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

No indicators of hydric soils were observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators of wetland hydrology were observed.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 64 Acres, Blue Lake Campground, Smith Township City/County: Whitley County Sampling Date: 11-Nov-14

Applicant/Owner: All American RV Resorts I, LLC. State: IN Sampling Point: 3

Investigator(s): Jacob Bannister and Molly Baughman Section, Township, Range: S 10 T 32N R 10E

Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): concave

Slope: 0.0% 0.0 ° Lat.: Long.: Datum:

Soil Map Unit Name: Houghton muck, drained NWI classification: PEM1B

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** **Yes ◉ No ○**
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. Populus deltoides	80	☑ 100.0%	FAC
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	80	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. Urtica dioica	30	☑ 54.5%	FACW
2. Leersia virginica	20	☑ 36.4%	FACW
3. Persicaria pensylvanica	5	☐ 9.1%	FACW
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
	55	= Total Cover	
Woody Vine Stratu (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	55	x 2 =	110
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	135 (A)		350 (B)

Prevalence Index = B/A = 2.593

Hydrophytic Vegetation Indicators:

- ☑ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? **Yes ◉ No ○**

Remarks: (Include photo numbers here or on a separate sheet.)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc²	Texture	Remarks
0-8	10YR	2/2	95	7.5YR	4/4	5	C	M	Silt Loam	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining. M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 64 Acres, Blue Lake Campground, Smith Township | City/County: Whitley County | Sampling Date: 11-Nov-14

Applicant/Owner: All American RV Resorts I, LLC. | State: IN | Sampling Point: 4

Investigator(s): Jacob Bannister and Molly Baughman | Section, Township, Range: S 10 T 32N R 10E

Landform (hillslope, terrace, etc.): Mound | Local relief (concave, convex, none): convex

Slope: 0.0% 0.0 ° | Lat.: | Long.: | Datum:

Soil Map Unit Name: Houghton muck, drained | NWI classification: PEM1B

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
1. Populus deltoides	10	☑	100.0%	FAC
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
	10	= Total Cover		
Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5 ft.)				
1. Alliaria petiolata	30	☑	31.6%	FAC
2. Solidago altissima	25	☑	26.3%	FACU
3. Rubus occidentalis	20	☑	21.1%	UPL
4. Fragaria vesca	10	☐	10.5%	UPL
5. Arctium minus	10	☐	10.5%	FACU
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	95	= Total Cover		
Woody Vine Stratu (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	35	x 4 =	140
UPL species	30	x 5 =	150
Column Totals:	105 (A)		410 (B)

Prevalence Index = B/A = 3.905

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (Include photo numbers here or on a separate sheet.)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc [2]	Texture	Remarks
0-14	10YR	2/2	100						Silt Loam	
14-20	10YR	2/2	99	7.5YR	4/4	1	C	M	Silt Loam	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining. M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

No indicators of hydric soils were observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators of wetland hydrology were observed.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 64 Acres, Blue Lake Campground, Smith Township City/County: Whitley County Sampling Date: 11-Nov-14

Applicant/Owner: All American RV Resorts I, LLC. State: IN Sampling Point: **5**

Investigator(s): Jacob Bannister and Molly Baughman Section, Township, Range: S 10 T 32N R 10E

Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): concave

Slope: 0.0% 0.0 ° Lat.: Long.: Datum:

Soil Map Unit Name: Martisco muck, drained NWI classification: PFO1C

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** **Yes ◉ No ○**
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. Ulmus americana	25	☑ 62.5%	FACW
2. Populus deltoides	15	☑ 37.5%	FAC
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. Cornus alba	20	☑ 57.1%	FACW
2. Rosa multiflora	10	☑ 28.6%	FACU
3. Rubus occidentalis	5	☐ 14.3%	UPL
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	35	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. Phalaris arundinacea	90	☑ 94.7%	FACW
2. Rosa multiflora	5	☐ 5.3%	FACU
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
	95	= Total Cover	
Woody Vine Stratu (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	135	x 2 =	270
FAC species	15	x 3 =	45
FACU species	15	x 4 =	60
UPL species	5	x 5 =	25
Column Totals:	170 (A)		400 (B)

Prevalence Index = B/A = 2.353

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? **Yes ◉ No ○**

Remarks: (Include photo numbers here or on a separate sheet.)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc [2]	Texture	Remarks
0-4	10YR	3/3	100						Sandy Clay Loam	
4-10	10YR	5/1	80	7.5YR	4/4	20	C	M	Silty Clay Loam	contains marl

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining. M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 64 Acres, Blue Lake Campground, Smith Township City/County: Whitley County Sampling Date: 11-Nov-14

Applicant/Owner: All American RV Resorts I, LLC. State: IN Sampling Point: 6

Investigator(s): Jacob Bannister and Molly Baughman Section, Township, Range: S 10 T 32N R 10E

Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): convex

Slope: 0.0% 0.0 ° Lat.: Long.: Datum:

Soil Map Unit Name: Martisco muck, drained NWI classification: PFO1C

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft.)				
1. Cornus alba	5	☑	50.0%	FACW
2. Acer saccharinum	5	☑	50.0%	FACW
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
	10	= Total Cover		
Herb Stratum (Plot size: 5 ft.)				
1. Trifolium hybridum	40	☑	42.1%	FACU
2. Festuca arundinacea	20	☑	21.1%	FACU
3. Poa pratensis	20	☑	21.1%	FAC
4. Taraxacum officinale	10	☐	10.5%	FACU
5. Plantago major	5	☐	5.3%	FAC
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	95	= Total Cover		
Woody Vine Stratu (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	25	x 3 =	75
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals:	105 (A)		375 (B)

Prevalence Index = B/A = 3.571

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: (Include photo numbers here or on a separate sheet.)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc [2]	Texture	Remarks
0-8	10YR	5/4	100						Clay Loam	
8-14	10YR	5/4	90	7.5YR	4/4	10	C	M	Clay Loam	
14-20	10YR	3/3	95	7.5YR	4/4	5	C	M	Silty Clay Loam	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining. M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

No indicators of hydric soils were observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators of wetland hydrology were observed.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 64 Acres, Blue Lake Campground, Smith Township City/County: Whitley County Sampling Date: 11-Nov-14

Applicant/Owner: All American RV Resorts I, LLC. State: IN Sampling Point: 7

Investigator(s): Jacob Bannister and Molly Baughman Section, Township, Range: S 10 T 32N R 10E

Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): concave

Slope: 0.0% 0.0 ° Lat.: Long.: Datum:

Soil Map Unit Name: Coesse silty clay loam NWI classification: PFO1C

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** **Yes ◉ No ○**
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. Ulmus americana	30	☑ 60.0%	FACW
2. Juglans nigra	20	☑ 40.0%	FACU
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. Phalaris arundinacea	40	☑ 47.1%	FACW
2. Solidago gigantea	35	☑ 41.2%	FACW
3. Urtica dioica	10	☐ 11.8%	FACW
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
	85	= Total Cover	
Woody Vine Stratu (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	115	x 2 =	230
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	135 (A)		310 (B)

Prevalence Index = B/A = 2.296

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? **Yes ◉ No ○**

Remarks: (Include photo numbers here or on a separate sheet.)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc²	Texture	Remarks
0-8	10YR	2/2	90	7.5YR	4/4	10	C	M	Clay Loam	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining. M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 64 Acres, Blue Lake Campground, Smith Township City/County: Whitley County Sampling Date: 11-Nov-14

Applicant/Owner: All American RV Resorts I, LLC. State: IN Sampling Point: **8**

Investigator(s): Jacob Bannister and Molly Baughman Section, Township, Range: S 10 T 32N R 10E

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope: 0.0% 0.0 ° Lat.: Long.: Datum:

Soil Map Unit Name: Coesse silty clay loam NWI classification: PFO1C

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
1. Juglans nigra	30	☑	60.0%	FACU
2. Ulmus americana	20	☑	40.0%	FACW
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
	50	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15 ft.)				
1. Juglans nigra	10	☑	100.0%	FACU
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
	10	= Total Cover		

Herb Stratum (Plot size: 5 ft.)				
1. Rubus occidentalis	40	☑	50.0%	UPL
2. Alliaria petiolata	20	☑	25.0%	FAC
3. Geum canadense	15	☐	18.8%	FAC
4. Urtica dioica	5	☐	6.3%	FACW
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	80	= Total Cover		

Woody Vine Stratu (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 40.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	25	x 2 =	50
FAC species	35	x 3 =	105
FACU species	40	x 4 =	160
UPL species	40	x 5 =	200
Column Totals:	140 (A)		515 (B)

Prevalence Index = B/A = 3.679

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (Include photo numbers here or on a separate sheet.)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc²	Texture	Remarks
0-4	10YR	3/2	100						Clay Loam	
4-10	10YR	3/2	99	7.5YR	4/6	1	C	M	Clay Loam	
10-18	10YR	3/2	98	7.5YR	4/6	2	C	M	Clay Loam	
18-20	10YR	3/2	95	7.5YR	4/6	5	C	M	Clay Loam	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining. M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

No indicators of hydric soils were observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators of wetland hydrology were observed.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 64 Acres, Blue Lake Campground, Smith Township City/County: Whitley County Sampling Date: 11-Nov-14

Applicant/Owner: All American RV Resorts I, LLC. State: IN Sampling Point: 9

Investigator(s): Jacob Bannister and Molly Baughman Section, Township, Range: S 10 T 32N R 10E

Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): concave

Slope: 0.0% 0.0 ° Lat.: Long.: Datum:

Soil Map Unit Name: Coesse silty clay loam NWI classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. Populus deltoides	75	☑ 88.2%	FAC
2. Gleditsia triacanthos	10	☐ 11.8%	FACU
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	85	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. Populus deltoides	20	☑ 66.7%	FAC
2. Gleditsia triacanthos	10	☑ 33.3%	FACU
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	30	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. Phalaris arundinacea	40	☑ 66.7%	FACW
2. Toxicodendron radicans	10	☐ 16.7%	FAC
3. Alliaria petiolata	10	☐ 16.7%	FAC
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
	60	= Total Cover	
Woody Vine Stratu (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	115	x 3 =	345
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	175 (A)		505 (B)

Prevalence Index = B/A = 2.886

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: (Include photo numbers here or on a separate sheet.)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc [2]	Texture	Remarks
0-6	10YR	4/3	100						Clay Loam	
6-14	10YR	4/2	100						Clay Loam	
14-19	10YR	4/2	99	7.5YR	4/4	1	C	M	Clay Loam	
19-21	10YR	3/2	95	7.5YR	4/4	5	C	M	Clay Loam	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining. M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

No indicators of hydric soils were observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators of wetland hydrology were observed.

Appendix L
References

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. *Technical Report Y-87-1*. United States Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Indiana Spatial Data Portal. **Whitley_*cd.sid*** [air photo]. Resolution: 1-foot. Projection: NAD_1983_StatePlane_Indiana_East_FIPS_3401_Feet; Linear Unit: Foot_US. Bloomington, Indiana 2005.

Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2014. *The National Wetland Plant List: 2014 Update of Wetland Ratings*. Phytoneuron 2014-41: 1-42.

Mohlenbrock, Robert H. 1986. *Guide to the Vascular Flora of Illinois*. Southern Illinois University Press, Carbondale. 507 pp.

Newcomb, Lawrence. 1977. *Newcomb's Wildflower Guide*. Little, Brown, and Company, Boston. xxii + 490 pp.

Peterson, Roger Tory and Margaret McKenny. 1968. *A Field Guide to Wildflowers*. Houghton Mifflin Company, Boston. 420 pp.

Petrides, George. 1972 (2nd edition). *A Field Guide to Trees and Shrubs*. Houghton Mifflin Company, Boston. 428 pp.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/>. Accessed November 2014.

U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)*. Headquarters, U.S. Army Corps of Engineers, Washington, D.C.

U.S. Fish and Wildlife Service. 2011. *National Wetlands Inventory Map: Churubusco Quadrangle*. United States Department of the Interior, Fish and Wildlife Service, Washington, D.C.

U.S. Geological Survey. ***Churubusco quadrangle, Indiana*** [map]. 1965. 1:24,000. 7.5 Minute Series. Reston, Virginia: United States Department of the Interior, USGS, 1965.

Yatskievych, Kay. 2000. *Field Guide to Indiana Wildflowers*. Indiana University Press, Bloomington. 357 pp.

Appendix M
Davey Resource Group Personnel Profiles

Jacob Bannister, M.S.E.S, is a site manager with Davey Resource Group's Natural Resources Consulting team. He manages ecological projects involving invasive species monitoring and control, wetland delineations, vegetation and ecological surveys, mitigation monitoring and reporting, water quality monitoring, and prescribed burning. Mr. Bannister also assists with urban forestry projects using GPS technology and pen-based tablet computers combined with tree identification skills to perform tree inventories and urban tree risk assessments. His previous experience as a landscape supervisor and operations manager with a major landscaping company in Indianapolis, Indiana allowed him to gain experience in tree management, pruning, and planting techniques, as well as herbicide and insecticide applications. While attaining his degrees, Mr. Bannister also gained skills in wetland and forest monitoring and management techniques, watershed planning, urban forestry and ecology, statistical data analysis techniques, and geographic information systems (GIS). Mr. Bannister has completed a U.S. Army Corps of Engineers Wetland Delineation Training Program. He is a Certified Pesticide Applicator, holding licenses in the states of Indiana (F220681), Illinois (CA 91857496), and Ohio (126224). He is also a Certified Arborist through the International Society of Arboriculture (IN-3389A). Mr. Bannister has earned a Bachelor of Science degree in public affairs with a concentration in public management, and a Master of Science degree in environmental science with a concentration in applied ecology, both from the School of Public and Environmental Affairs at Indiana University.

Molly Baughman is a biologist with Davey Resource Group's Natural Resource Consulting team. Ms. Baughman assists with ecological services including invasive species management, mitigation monitoring, wetland delineations, plant identification, and urban forestry projects. She is a licensed pesticide applicator in Indiana (F250568), Illinois (CA91843792), and Ohio (121058); a U.S. Army Corps of Engineers-trained wetlands delineator; and an International Society of Arboriculture Certified Arborist (IN-3443A). Prior to joining Davey Resource Group, Ms. Baughman worked for the Bureau of Land Management conducting vegetation surveys and seed collections and as a research assistant at Purdue University supporting various graduate student field research projects. Ms. Baughman earned a Bachelor of Science degree in environmental plant studies from Purdue University.

Ken Christensen is a senior biologist with more than 30 years of experience in the natural resource field. Mr. Christensen is involved in all aspects of wetlands and stream restoration projects, including design, planting, and implementation. He is also involved with monitoring of mitigation and restoration projects to ensure that such endeavors reach a successful conclusion. Mr. Christensen assists in plant surveys and wetlands delineations and in the field identification of vertebrate populations, especially amphibians, reptiles, and mammals. Proficient with AutoCAD® software, Mr. Christensen is responsible for managing the Global Navigation Satellite System (GNSS) data collection and AutoCAD® mapping operations for all natural resource studies. As an International Society of Arboriculture Certified Arborist (OH-0690A), he performs tree appraisals and inventories and also develops tree preservation plans. Mr. Christensen is a LEED® Accredited Professional and has received the following training: American Ecological Engineering Society Wetland Mitigation Design from Virginia Polytechnic Institute and State University; AutoCAD® for Stream Restoration and Monitoring from North Carolina Cooperative Extension; North Carolina Stream Restoration Institute's Stream Classification and Assessment Program and Stream Restoration Design Principles. Mr. Christensen is prequalified by the Ohio Department of Transportation for wetland mitigation. He

has also completed training through Ohio Environmental Protection Agency for conducting the following: Headwater Habitat Evaluation Index (HHEI); Qualitative Habitat Evaluation Index (QHEI); Ohio Rapid Assessment Method (ORAM) v.5; and Vegetation Index of Biotic Integrity (VIBI). He is a member of the International Society of Arboriculture, Ecological Landscaping Association, and Northern Ohio Association of Herpetologists. Mr. Christensen holds a Bachelor of Science degree in conservation from Kent State University.

Alicia R. Douglass, M.E.S., is a biologist and project manager responsible for ecological projects including ecological restoration plans and implementation, wetlands delineations, mitigation monitoring, herbaceous vegetation assessments, water quality monitoring, and watershed studies including watershed management plans. Ms. Douglass has experience obtaining Section 401/404 permits, isolated wetlands permits, and Indiana Department of Natural Resources Division of Water permits. In addition, she performs stream assessments using the Headwater Habitat Evaluation Index (HHEI) and Qualitative Habitat Evaluation Index (QHEI); the Indiana Wetland Rapid Assessment Protocol (INWRAP), Ohio Rapid Assessment Method (ORAM), Floristic Quality Assessment (FQA), and Ohio Vegetation Indices of Biotic Integrity (VIBI) for wetland assessments; and the Rapid Bioassessment Protocol (RBP) for macroinvertebrates. She is responsible for preparing and delivering public educational materials and outreach presentations to disseminate technical scientific data in a format that can be easily understood by the general public. In addition, Ms. Douglass assists with Phase I Environmental Site Assessments. Prior to joining Davey Resource Group, Ms. Douglass performed mitigation compliance assessments for 401 Water Quality Certifications for Indiana Department of Environmental Management, and while at Taylor University conducted research using Floristic Quality Assessment (FQA) in mitigation wetlands. She has completed the U.S. Army Corps of Engineers Wetland Identification and Delineation training course and holds a professional certificate in watershed management from the Indiana Watershed Leadership Academy. Ms. Douglass is a member of the Indiana Native Plant and Wildflower Society, Indiana Water Monitoring Council, and the Association of Watershed and Stormwater Professionals, and is a Hoosier Riverwatch volunteer. She holds a Bachelor of Arts degree in biology and a Master of Environmental Science degree from Taylor University.

Kim Klosterman, M.R.P., is a field technician with Davey's Natural Resource Consulting group. She has four years of work experience with invasive species treatment, watershed outreach/education, and open space planning. Before joining Davey Resource Group, she worked for Applied Ecological Services, Inc., performing invasive vegetation treatment, installing erosion control techniques, and planting native species. Ms. Klosterman graduated from Knox College with a Bachelor of Arts degree in environmental studies and from the University of Massachusetts, Amherst, with a Master's degree in regional planning.